

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-028158**Date Inspected:** 11-Aug-2012**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** As noted below.**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower / OBG**Summary of Items Observed:**

Quality Assurance Inspector (QA) William Clifford was at the American Bridge/Fluor (ABF) job site at Yerba Buena Island in California between the times noted above in order to monitor Quality Control functions and the in process work being performed by ABF personnel. The following items were observed:

Approximately 7:30am QA Lead Daniel Reyes instructed this QA to perform Magnetic Particle Testing (MT) of a repair area on the West Jacking Block. Upon arrival, this QA determined that due to obstructions (a bolted in place beam) MT could not be performed at this time. This QA telephoned Mr. Reyes and informed him this access restriction. Mr. Reyes told this QA that testing would be attempted at a future time when the obstruction had been removed.

Please see pic below for visual representation of the obstruction.

**Electroslag Weld Excavation / Welding**

WRR-201208-019

This QA observed ABF/JV welding personnel Wen Han Yu #6317 performing excavation of an Electroslag Weld (ESW) previously Ultrasonic Tested (UT) by Quality Control (QC) technicians.

The UT discovered indication was found to be oriented in the longitudinal position. The indication was found to be rejectable per AWS D1.5 Table 6.4).

The weld being excavated is designated as "ESW B" and was excavated on Face B at location:

Weld "B" – Y= 9585mm, L= 150mm, W= 38mm, D= 13mm.

The carbon arc gouging process, as well as machine grinding, were used to excavated approximately 2mm-5mm at a time. In between excavation passes both QA and QC performed Magnetic Particle Testing (MT).

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## WELDING INSPECTION REPORT

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Please see attached photographs for more information.

This QA randomly observed ABF/JV qualified welder James Zhen #6001 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1000-R. The joint being welded was tower shear plate designated as ESW weld, location "B" from face B.

Dimensions excavated for these repairs were:

Weld "B" – Y= 9585mm, L= 150mm, W= 38mm, D= 13mm.

During welding, ABF Quality Control (QC) Andrew Keech was noted monitoring the welding parameters. Welding parameters were recorded as (A=119).

WRR-201208-022

This QA observed ABF/JV welding personnel Wen Han Yu #6317 performing excavation of an Electroslag Weld (ESW) previously Ultrasonic Tested (UT) by Quality Control (QC) technicians.

The UT discovered indication was found to be oriented in the longitudinal position. The indication was found to be rejectable per AWS D1.5 Table 6.4).

The weld being excavated is designated as "ESW B" and was excavated on Face B at location:

Weld "B" – Y= 1020mm, L= 190mm, W= 40mm, D= 14mm.

The carbon arc gouging process, as well as machine grinding, were used to excavated approximately 2mm-5mm at a time. In between excavation passes both QA and QC performed Magnetic Particle Testing (MT).

Please see attached photographs for more information.

\*Note: ABF personnel did not follow the agreed upon excavation procedure when excavating from a depth of 7mm to 14mm. Excavation was not performed in 2~5mm increments allowing for QA/QC MT between passes. QC/QA UT placed the depth of the indication at 9mm from face B.

This QA randomly observed ABF/JV qualified welder Wen Han Yu #6317 performing Shielded Metal Arc Welding (SMAW) with 3.2mm" diameter E7018H4R electrode and implementing Caltrans approved Welding Procedure Specification's (WPS) ABF-WPS-D15-1000-R. The joint being welded was tower shear plate designated as ESW weld, location "B" from face B.

Dimensions excavated for these repairs were:

Weld "B" – Y= 1020mm, L= 190mm, W= 40mm, D= 14mm.

During welding, ABF Quality Control (QC) Andrew Keech was noted monitoring the welding parameters. Welding parameters were recorded as (A=120).

### Magnetic Particle Testing

This QA Inspector performed Magnetic Particle Testing (MT) of completed weld repair excavation on tower ESW "B". This QA observed no rejectable indications at the time of testing. This QA Inspector generated a TL-6028 MT report on this date. The completed work observed at this location appeared to be in compliance with the contract specifications.

Measurements for excavation are:

Weld "B" – Y= 1020mm, L= 190mm, W= 40mm, D= 14mm.

QA/QCMT was performed prior to weld process initiation.

# WELDING INSPECTION REPORT

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Measurements for excavation are:

Weld "B" – Y= 9585mm, L= 150mm, W= 38mm, D= 13mm.

QA/QCMT was performed prior to weld process initiation.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



## Summary of Conversations:

Conversations were relevant to work performed.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

**Inspected By:** Clifford, William

Quality Assurance Inspector

**Reviewed By:** Levell, Bill

QA Reviewer